



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant(s): Thomas P. Glenn et al.

Assignee: Amkor Technology, Inc.

Title: Optical Track Drain Package

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CLEAN COPY OF REPLACEMENT CLAIMS

Replace the pending set of claims in the above application with the following set of claims:

1. A package comprising:
a substrate comprising:
a pocket;
an overflow reservoir around a periphery of said pocket; and
a mating surface around a periphery of said overflow reservoir;
a first electronic component coupled within said pocket;
a sealing encapsulant filling said pocket, said sealing encapsulant comprising an exterior surface coplanar with said mating surface; and
excess encapsulant within said overflow reservoir.
2. The package of Claim 1 further comprising a second electronic component coupled within said pocket.
3. The package of Claim 1 wherein said first electronic component is coupled within said pocket

in a configuration selected from the group consisting of a wirebond configuration, a surface mount configuration and a flip chip configuration.

4. The package of Claim 1 wherein said substrate further comprises:

a pocket base surface; and

a pocket sidewall surface, said pocket base surface and said pocket sidewall surface defining said pocket.

5. The package of Claim 4 wherein said first electronic component comprises a first surface comprising a bond pad and a second surface coupled to said pocket base surface, said package further comprising:

a pin extending through said pocket base surface and through said substrate and protruding from a lower surface of said substrate; and

a bond wire electrically coupling said bond pad to said pin.

6. The package of Claim 4 wherein said first electronic component comprises a first surface comprising a bond pad and a second surface coupled to said pocket base surface, said package further comprising:

an inner trace coupled to said pocket base surface;

a bond wire electrically coupling said bond pad to said inner trace; and

an outer trace coupled to a lower surface of said substrate, said inner trace being electrically coupled to said outer trace.

7. The package of Claim 6 further comprising an interconnection pad coupled to said outer trace.

8. The package of Claim 6 further comprising an interconnection ball coupled to said outer trace.

9. The package of Claim 1 wherein said sealing encapsulant comprises a cured flowable material.

10. The package of Claim 1 wherein said exterior surface of said sealing encapsulant has a smoothness approximate equal to a smoothness of glass.

11. The package of Claim 1 wherein said sealing encapsulant is opaque.

12. The package of Claim 1 wherein said excess encapsulant is formed of a same material as said sealing encapsulant.

13. The package of Claim 1 wherein said excess encapsulant comprises an exterior surface below said mating surface.

14. (AMENDED) The package of Claim 1 wherein said substrate further comprises:

a pocket base surface;

a pocket sidewall surface, said pocket base surface and said pocket sidewall surface defining said pocket;

a drain base surface;

a drain inner sidewall surface;

a drain outer sidewall surface, said drain base surface, said drain inner sidewall surface, and said

drain outer sidewall surface defining said overflow reservoir; and

a runner surface extending between said drain inner sidewall surface and said pocket sidewall surface.

15. (AMENDED) The package of Claim 14 wherein said runner surface extends between said pocket and said overflow reservoir.

16. (AMENDED) The package of Claim 14 wherein said mating surface extends from said drain outer sidewall surface.

17. (AMENDED) The package of Claim 16 wherein said runner surface is below said mating surface.

19. A package comprising:
a substrate comprising:
a pocket; and
an overflow reservoir around a periphery of said pocket;
an optical element coupled within said pocket, said optical element comprising an active area on a surface of said optical element;
a transparent sealing encapsulant filling said pocket; and
a transparent excess encapsulant within said overflow reservoir.

20. The package of Claim 19 wherein said transparent sealing encapsulant comprises a planar exterior surface parallel with said surface of said optical element and above said active area.

21. The package of Claim 19 further comprising a structure in contact with said sealing encapsulant.

22. The package of Claim 21 wherein said structure comprises a window.

23. The package of Claim 22 wherein a first surface of said window is in contact with said sealing encapsulant, a second surface of said window being in contact with a waveguide.

24. The package of Claim 21 wherein said structure comprises a waveguide.

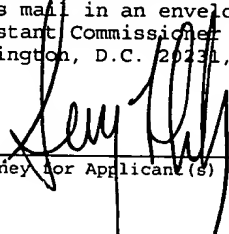
25. A package comprising:
a substrate comprising a mating surface and a means for containing an electronic component;
a means for protecting said electronic component filling said means for containing; and
a means for preventing said mating surface from being contaminated by said means for protecting.

26. The package of Claim 25 wherein said means for protecting is transparent.

27. The package of Claim 26 wherein said means for protecting comprises an exterior surface coplanar with said mating surface.

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